

Printed Page:-

Subject Code:- ACSE0303

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: III - CARRY OVER THEORY EXAMINATION - APRIL 2023

Subject: Design Thinking-I

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION A

20

1. Attempt all parts:-

- 1-a. The second step in the design thinking process is: (CO 1) 1
- (a) Define
 - (b) Test
 - (c) Empathise
 - (d) Prototype
- 1-b. Which among the following is better technique for observation exercise: (CO 1) 1
- (a) Complete Observer
 - (b) Complete Participant
 - (c) Participants as Observer
 - (d) observer as participant
- 1-c. Which of the following is not a tool in Empathy stage..... (CO 2) 1
- (a) Persona Mapping
 - (b) CATWOE
 - (c) RCA

- (d) L0
- 1-d. During which step do you build a vast depository of suggestions to work with? (CO 2) 1
- (a) Test
 - (b) Empathise
 - (c) Ideate
 - (d) Prototype
- 1-e. ____ is the process of coming up with a solution to a problem by analyzing the problem, by splitting down the data to understand the problem. (CO 3) 1
- (a) Define stage of Design Thinking
 - (b) Design Thinking touch pointing
 - (c) Ideation of Design Thinking
 - (d) Prototype designing
- 1-f. You are a person with a high level of.....if you stand by your values even if others put pressure on you to do something that is wrong or if they make fun of you. (CO 3) 1
- (a) Communication
 - (b) Cooperation
 - (c) Honesty
 - (d) Integrity
- 1-g. Words that frequently accompany arguments and signal that a premise or conclusion is present is called. (CO 4) 1
- (a) Inference words
 - (b) Premise indicators
 - (c) Indicator words
 - (d) Equivalent words
- 1-h. Which of the following are benefits of brainstorming when compared to nominal group technique? (CO 4) 1
- (a) brainstorming is more fun
 - (b) brainstorming can create a positive organizational climate
 - (c) brainstorming can encourage talented and highly skilled employees to remain in an organization
 - (d) all of the above
- 1-i. The fallacy of ignoring the bad information about something is [CO5] 1

- (a) The Bandwagon Fallacy
- (b) The Ad Hominem Fallacy
- (c) The ostrich fallacy
- (d) The Slippery slope fallacy

- 1-j. The first step in investigating possible implicit premises is to...(CO 5) 1
- (a) Search for a credible premise that would make the argument as strong as possible
 - (b) Rewrite the argument
 - (c) Search for a credible premise that would make the argument valid
 - (d) Make a bad argument good

2. Attempt all parts:-

- 2.a. What are wicked Problems? (CO1) 2
- 2.b. Define the culture.(CO2) 2
- 2.c. How "Random Association Technique" helps in Brainstorming session? (CO3) 2
- 2.d. How to apply critical thinking.(CO4) 2
- 2.e. Differentiate between Valid and invalid arguments. (CO 5) 2

SECTION B

30

3. Answer any five of the following:-

- 3-a. What are wicked Problems? Explain wicked problem with case study of Peoples Liberation Army, Columbia. (CO 1) 6
- 3-b. Define Empathy. Draw a empathy map of a rural student taken admission in NIET. (CO 2) 6
- 3-c. Describe the brainstorming with its benefits and limitations to solve the problems. How RAT helps in ideation?(CO2) 6
- 3-d. Describe three key elements of Design Thinking.(CO1) 6
- 3.e. What is Root Cause Analysis? How 5 Why technique help in understanding the root cause of a problem? Give example(CO3) 6
- 3.f. Explain the fundamental concept behind critical thinking.(CO4) 6
- 3.g. Is there anything inherently wrong with accepting a claim that furthers your own interests? Is there anything wrong with accepting a claim solely because it furthers your own interests? (CO 5) 6

SECTION C

50

4. Answer any one of the following:-

- 4-a. What is design thinking? Give three examples of Great Design. (CO1) 10
- 4-b. Explain Arcturus-IV case study by Professor John Arnold? What are your imaginations about Arcturus-IV? (CO 1) 10

5. Answer any one of the following:-

- 5-a. Describe the culture along with its various elements in detail.(CO2) 10
- 5-b. Discuss the care & guidance.(CO2) 10

6. Answer any one of the following:-

- 6-a. Attempt a journey map of a first-year student who comes from a rural background and enters your classroom- 10
(i) Draw the persona, (ii) Identify various touch points, (iii) Capture journey map elements at each touch point and rate them by plotting a graph (CO3)
- 6-b. How to make a classroom experience interesting for students (i) Do the Brainstorming (ii) Use Random Association Technique (iii) Construct a Mindmap (iv) Apply 10gm, 100gm, 1000gm (v) Identify QBL (CO3) 10

7. Answer any one of the following:-

- 7-a. Contrast between argumentation versus rhetoric.(CO4) 10
- 7-b. Explain ideation methods to spark innovative ideas. (CO4) 10

8. Answer any one of the following:-

- 8-a. Define Logic, Premise and Conclusion with valid examples. (CO 5) 10
- 8-b. Define propositional logic and identify the role that logic plays in critical thinking with example. (CO5) 10